

**Notice of Allowability**

Application No.

10/758,328

Examiner

Stephen Elmore

Applicant(s)

NAGASAWA ET AL.

Art Unit

2186

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed August 2, 2004.
2. ☒ The allowed claim(s) is/are 25-48 renumbered as 1-24.
3. ☒ The drawings filed on 14 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☒ Certified copies of the priority documents have been received in Application No. 09/616,829.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 04/30/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
Stephen Elmore

**EXAMINER'S COMMENT and REASONS FOR ALLOWANCE**

***Information Disclosure Statement***

1. The enclosed Information Disclosure Statement filed April 30, 2004 indicates that the examiner has "lined-through" citations number 1-16. The reason for this is because these documents have already been considered by the examiner as part of Paper No. 05142004.

**REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance:

As to independent claims 25, 31-34 and 39-41, directed towards a data storage apparatus and disk storage system, the following limitations taken in combination with the remaining limitations are not found in and or are not obvious in view of the prior art of record, including the closest prior art of record, US Patent 6,098,128 and US Patent 6,308,289,

**Claim 25,**

"wherein said asynchronous copy mode is used between said first data storage apparatus and said second data storage apparatus while said first controller does not detect probability of data loss in said first data storage apparatus, and  
wherein said copy mode changes from said asynchronous copy mode to said synchronous copy mode when said first controller detects said probability of data loss in said first data storage apparatus"

**Claim 31,**

"wherein said asynchronous copy mode is used between said first data storage apparatus and said second data storage apparatus while said first controller does not detect probability of data loss in said first data storage apparatus, and  
said copy mode changes from said asynchronous copy mode to said non-asynchronous copy mode when said first controller detects said probability of data loss in said first data storage apparatus"

**Claim 32,**

"wherein said first controller returns a report of completion of writing to said host computer on said first data storage apparatus's completing storing data concerning a

Art Unit: 2186

request to write from said host computer while said first controller does not detect probability of data loss in said first data storage apparatus, and

wherein said first controller returns a report of completion of writing to said host computer on both said first data storage apparatus's and said second data storage apparatus's completing storing data concerning a request to write from said host computer after said first controller detects said probability of data loss in said first data storage apparatus"

**Claim 33,**

"an asynchronous/synchronous node switching part switching said copy mode from said asynchronous copy mode to said synchronous copy mode after said first controller detects probability of data loss in said first data storage apparatus"

**Claim 34,**

"wherein said data storage apparatus performs copying in said asynchronous copy mode to said backup data storage apparatus while said controller does not detect probability of data loss in said data storage apparatus, and performs copying in said synchronous copy mode to said backup data storage apparatus when said controller detects said probability of data loss in said data storage apparatus"

**Claim 39,**

"wherein said data storage apparatus performs copying in said asynchronous copy mode to said backup data storage apparatus while said controller does not detect probability of data loss in said data storage apparatus, and performs copying in said non-asynchronous copy mode to said backup data storage apparatus when said controller detects said probability of data loss in said data storage apparatus"

**Claim 40,**

"wherein said controller returns a report of completion of writing to said host computer on said data storage apparatus's completing storing data concerning a request to write from said host computer while said controller does not detect probability of data loss in said data storage apparatus, and

said controller returns a report of completion of writing to said host computer on both said data storage apparatus's and said backup data storage apparatus's completing storing data concerning a request to write from said host computer after said controller detects said probability of data loss in said data storage apparatus"

Art Unit: 2186

**Claim 41,**

"an asynchronous/synchronous mode switching part switching said copy mode from said asynchronous copy mode to said synchronous copy mode after said controller detects probability of data loss in said data storage apparatus"

**Claims 42-48,**

As to independent claims 42-48, the Terminal Disclaimer filed August 2, 2004 has been approved.

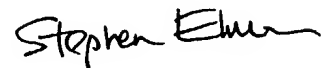
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Elmore whose telephone number is (703) 308-6256. The examiner can normally be reached on Mon-Fri from 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen Elmore  
Assistant Examiner  
Art Unit 2186



September 1, 2004